

REMARKS / DISCUSSION OF ISSUES

Claims 1-3, 5-11, and 13-14 are pending in the application; claims 16-24 are newly added.

Claims are amended to substantially undo a number of changes that were introduced recently in the prosecution of this application. Because these changes had no effect on the determination of patentability for these claims, the applicants herein retract and recant all comments related to these changes.

The final Office action rejects claims 1-3, 5-11, and 13-14 under 35 U.S.C. 103(a) over Masse et al. (USP 6,990,570, hereinafter Masse), Ganapathy et al. (USP 6,598,155, hereinafter Ganapathy), and Redford (USP 6,732,253). The applicants respectfully traverse this rejection.

MPEP 2142 states:

"To establish a *prima facie* case of obviousness ... the prior art reference (or references when combined) **must teach or suggest all the claim limitations**... If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness."

The Office action acknowledges that Masse and Ganapathy fail to teach a plurality of functional units having corresponding control units. The applicants respectfully maintain that because these references fail to teach a plurality of functional units with corresponding control units, they cannot be said to teach that each of such control units controls a number of repetitions of the execution of the function of the corresponding functional unit.

The Office action relies on Redford for teaching a plurality of functional units, and asserts that each of the functional units includes corresponding control units. The applicants respectfully disagree with this assertion. As claimed, the control units operate autonomously. The Office action takes Official Notice that SIMD processors, such as taught by Redford, "contain multiple functional units to execute a single instruction on multiple data in parallel". The applicants concur with this Official Notice, and maintain that this notice belies the assertion that each functional unit contains a corresponding control unit, as the term 'control unit' is defined in the claims. An SIMD (Single Instruction, Multiple Data) structure provides for a single controller that executes the single instruction on multiple elements of data; there is no autonomous operation among functional units in an SIMD processor.

The applicants respectfully maintain that because each of Masse, Ganapathy, and Redford teach a single control unit, the combination of Masse, Ganapathy, and Redford cannot be said to teach or suggest a plurality of autonomous control units, as specifically claimed in claim 1, upon which claims 2, 5-9, 11, and 13-14 depend. Claim 10 includes similar limitations.

Because the combination of Masse, Ganapathy, and Redford fails to teach or suggest a plurality of functional units with corresponding control units, wherein each functional unit executes the function for a number of repetitions in an autonomous manner under control of the control unit, as specifically claimed in claims 1 and 10, the applicants respectfully request the Examiner's reconsideration of the rejection of claims 1-3, 5-11, and 13-14 under 35 U.S.C. 103(a) over Masse, Ganapathy, and Redford.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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